

**Abstract**

An internal multiband antenna intended to be used in small-sized radio devices and a radio device having an antenna according to the invention. The radiating element (330) of the antenna is a conductive part in the cover of the radio device or a conductive surface attached to the cover. The radiating element is fed electromagnetically by a feed element (320) connected to the antenna port. The feed element is designed (321, 322) such that it has, together with the radiating element and ground plane (310), resonating frequencies in the areas of at least two desired operating bands. In addition, the resonating frequency of the radiating element itself is arranged to fall into an operating band. Antenna matching is provided by feed element design and short-circuiting (315). The radiating element design can be based on the desired external appearance of the device, and the locations of the operating bands and antenna matching are provided through feed element design and short-circuiting. The antenna requires a relatively minor space within the device.

Fig. 3a